

## CHAPTER 1

### BACKGROUND AND RATIONALE

Clean umbilical cord care is one of the main practices to prevent infection in newborn infants. Previous studies have shown that antiseptic agents applied on umbilical stump significantly reduces bacterial colonization rates (1-5). However, the effect of such agents in reducing umbilical infection is less clear. The World Health Organization (WHO) (6) recommends that if newborns are kept in nurseries, a topical antimicrobial should be applied to the umbilical stump at birth and for the first few days to prevent bacterial colonization and cross-infection. For umbilical cord care after discharge from hospital, clean cord care is sufficient and the application of an antiseptic agent is not required.

There are wide variations of cord care practices in Thailand. Although our cord care practices in hospital follow WHO recommendation (6) (Table 1), those at home do not. Thus, continuation of using antiseptics at home is probably unnecessary routine. Previous studies have shown that antiseptics prolong the time to cord separation (7-9). Late separation of the cord is dissatisfied by parents (10-12) and entails more home visits by midwives (9), thus increasing their workload and cost of postnatal care. Moreover, the use of antiseptics at home gives rise to concern such as expired solution, inappropriate concentration or contamination and changes of skin normal flora.

Triple dye is effective against staphylococcus (1, 3, 13-16), and its use in hospital is appropriate for preventing umbilical infection and cross-infection. The problems of triple dye use in newborn infants are the purple staining of skin and delayed cord separation (8, 10, 16, 17). Since these problems are the major concern post-discharge, routine application of triple dye to cord stump at home may need to be adjusted. Clean cord care is one of standard practices recommended whereas alcohol is an acceptable antiseptic widely used. Therefore we conducted a study to compare time to cord separation, parental satisfaction, bacterial colonization on umbilical stumps and adverse outcome when using triple dye in hospital but following with different regimens of cord care at home: triple dye, alcohol and no antiseptic agent.

Table 1.1 Recommendations on postnatal cord care (World Health Organization) (6)

Cleanliness and protection from contamination	<ol style="list-style-type: none"> <li>1. Wash hands with clean water and soap before and after cord care</li> <li>2. Keep the stump exposed to air or loosely covered with clean clothes</li> <li>3. Fold napkin below stump</li> <li>4. Avoid applying unclean substances, touching the cord and covering it with bandages</li> </ol>
How to clean the cord when soiled	<ol style="list-style-type: none"> <li>1. Wash with clean water and soap, dry thoroughly</li> </ol>
Topical antimicrobial on cord stump	<ol style="list-style-type: none"> <li>1. None unless necessary</li> <li>2. In nurseries and intensive care unit: chlorhexidine, tincture of iodine, povidone-iodine, triple dye, silver sulfadiazine (once daily for 3 days)</li> </ol>
Practices that may decrease the risk of cord infection	<ol style="list-style-type: none"> <li>1. keep the baby with the mother (24-hour rooming-in)</li> <li>2. Early and frequent breast feeding</li> </ol>